

Effect of Financial Crisis on Capital Structure of Nepalese listed Companies

Manju Tamang*

Abstract

This study examines the effect of financial crisis on the capital structure of Nepalese listed companies. Total debt to total assets ratio and total debt to total equity ratio are the selected dependent variables. Similarly, the selected independent variables are liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth. This study is based on secondary data of 14 Nepalese listed companies over a period 2015/16 to 2022/23, leading to a total of 112 observations. The secondary data was gathered from the annual reports of the chosen companies. The correlation coefficients and regression models are estimated to test the significance and effect of financial crisis on the capital structure on Nepalese listed companies.

The study showed that liquidity ratio has a positive effect on total debt to total assets ratio and total debt to total equity ratio. This means that increase in liquidity ratio leads to increase in total debt to assets ratio total debt to total equity ratio. Similarly, return on assets has a positive effect on total debt to total assets ratio total debt to total equity ratio. It indicates that increase in return on assets leads to increase in total debt to assets ratio total debt to total equity ratio. In addition, profitability has a positive effect on total debt to total assets ratio total debt to total equity ratio. It indicated that higher the profitability, higher would be the total debt to total assets ratio total debt to total equity ratio. However, assets tangibility has a negative effect on total debt to total assets ratio total debt to total equity ratio. It means increase in assets tangibility leads to decrease in total debt to total assets ratio total debt to total equity ratio. Furthermore, firm size has a negative effect on total debt to total assets ratio total debt to total equity ratio. This indicates that increase in firm size leads to decrease in total debt to total assets ratio total debt to total equity ratio. Moreover, growth rate has a negative effect on total debt to total assets ratio. It indicates that increase in growth rate leads to decrease in total debt to total assets ratio total debt to total equity ratio of the companies.

Keywords: total debt to total assets ratio, total debt to total equity ratio, liquidity ratio, return on assets, profitability, assets tangibility, firm size, assets growth

1. Introduction

A financial crisis is a condition in which the worth of financial entities or assets declines sharply which results significant economic turmoil. Financial entities such as banks face major losses, resulting in insolvencies or government rescues. Similarly, financial markets, including stock markets, bond markets, or others, can face significant drops in asset values. There could be an absence of liquidity, indicating that businesses, consumers, or governments have difficulty obtaining cash or credit (Aiginger, 2009). Factors that triggered financial crisis by housing market bubble and resulting price drop, leading to a crisis of counterparty risk as liquidity decreased from insolvency worries (Thakor, 2015). A financial crisis may arise from numerous reasons, such as overborrowing by individuals, businesses, or governments can result in unmanageable debt levels, by asset bubbles which refer to a swift rise in asset values (such as real estate and stocks) that lacks backing from fundamental economic factors, by inadequate risk management where financial institutions might assume excessive risks without adequately evaluating the possible negative outcomes, by financial mismanagement when corruption, deceit, or inadequate regulation may lead to the crisis, and when incidents such as conflicts, natural calamities, or health crises can initiate or worsen a financial crisis and many more financial downturn. Financial crisis is an abrupt disturbance in financial markets or banking systems, resulting in significant economic turmoil due to banks evading regulations,

*Ms. Tamang is a Freelance Researcher, Kathmandu, Nepal.

concentrating mortgage default risks and leading to insolvency is the cause of financial crisis (Claessens et al., 2010).

Capital structure is essential for funding the financial activities and investments of a company. It is blend of total debt and total equity of company. The typical practice for a company is to establish a specific target capital structure for itself, outlining the preferred allocation of capital. There is a lack of clarity regarding how banks determine their capital structure and the factors that affect their corporate financing practices. The management of the firm should make logical financing choices about the ideal capital structure, which would consequently lower its cost of capital (Goyal, 2013). Capital structure in finance refers to how a company funds its assets through a mix of debt, equity, or hybrid securities (Saad, 2010). Various conditional theories of capital structure propose varying levels of debt due to being grounded in differing assumptions. Pecking order theory considered internal finance, debt, and equity are all as preferences. This suggested that when a company sells stocks, outside investors might see it as a sign that either the company's stocks are too expensive or that the company is struggling financially. This could result in an adverse market response. On the contrary, taking on debt does not convey a negative message as it indicates management's belief in the company's capacity to produce enough cash flow to pay off its debts. When a company requires outside funding, it opts for debt (like bonds or loans) over equity (fresh shares of stock). Debt is favored due to lower costs of information asymmetry and does not dilute control of current shareholders. Equity is not the most favored choice due to the possibility that introducing new shares could weaken the control of current shareholders and be perceived as a sign of vulnerability in the market, such as financial difficulties and inability to obtain debt financing. Retained earnings, also known as internal financing, is viewed as the top choice for capital sources. This is due to the lack of new debt or equity issuance and absence of external parties. External funding is utilized in cases where internal resources are insufficient. Companies choose to borrow money instead of selling shares for various reasons (Myers and Majluf, 1984).

Effect of financial crisis can be seen on capital structure of financial institutions, business entities, government bodies, and other firms. In times of financial turmoil, lenders tend to be more cautious, resulting in elevated interest rates for loans. Firms might find higher expense with higher interest rate to obtain debt, leading to a rise in the total cost of capital. Financial institutions might limit their lending, making it more difficult for companies to obtain loans or alternative types of credit. Businesses might struggle to secure new financing, particularly loans. Lim *et al.* (2012) stated that the capital structure decision is crucial in the banking sector as it impacts various stakeholders like shareholders, creditors, and company management. Similarly, Chen et al. (2014) discovered that big corporations prefer borrowing money for funding, whereas successful companies tend to use profits to build up their capital. Debt financing is more influenced by intangibility and business risk, while capital structure is minimally affected by taxes. The study also noted a significant impact from both the industrial and ownership factors. Real estate companies borrow a significant amount while utility and manufacturing firms rely more on long-term debt in comparison to commercial companies. However, companies that are state-owned have a tendency to rely more on borrowing, whereas firms owned by foreign entities prefer equity financing.

Ramlall (2009) illustrated that size is positively correlated to leverage, while tangible assets are negatively correlated to leverage. The study revealed that capital structure is mainly influenced by profitability and growth. These findings are in alignment with the pecking order theory, which states that firms with higher revenues tend to have lower levels of debt and rely

more on internal funds for financing. Similarly, Daskalakis and Psillaki (2008) investigated the factors affecting the capital structure of small and medium enterprises in France and Greece. The study indicated that capital structures have both similarities and differences. In both nations, there is a direct correlation between size and leverage, while tangible assets and profitability are inversely related to leverage. In France, leverage is only linked to growth in a positive manner. The study found that Greek companies have higher leverage compared to French companies, while the latter possess a greater amount of tangible assets. Additionally, Buferna et al. (2005) found that there is a positive correlation between leverage and profitability as well as size, but a negative correlation with growth and tangible assets. Likewise, Gaud et al. (2005) found that there is a positive correlation between leverage and size as well as tangible assets, while there is a negative correlation with growth and profitability. However, Deari (2009) discovered contrasting outcomes for both listed and non-listed firms. Macedonian listed companies demonstrated that profitability, tangible assets, and tax protection have a negative correlation with leverage, while size and growth have a positive correlation with leverage. Unlisted firms demonstrated a positive correlation between profitability, tax shielding, and growth with leverage, but a negative correlation between tangible assets and growth.

Susilowati et al. (2022) illustrated the impact of profitability and firm size on capital structure is negative, but not statistically significant. Liquidity has a negative and significant impact on capital structure, as assets expand. Similarly, Suzulia and Saluy (2020) found that the company growth, profitability, and inflation have a notable influence on capital structure. Deciding on the capital structure is challenging as it involves choosing between debt and equity securities while considering the various costs and advantages linked to these securities. An incorrect choice in the allocation of the securities could result in financial trouble for the firm and potentially lead to bankruptcy (Sheikh and Wang, 2010). Additionally, Afinindy et al. (2021) suggested that, the company's profitability, liquidity, and sales growth do not greatly impact its capital structure and value. Furthermore, Cole (2008) found that size and profitability are negatively associated with leverage, while tangible assets are positively correlated with it. Additionally, Shubita and Alsawalhah (2012) stated strong adverse correlation between capital structure and profitability which means higher levels of debt are linked to lower levels of profitability. It indicates that as debt increases, profitability decreases for the company. In times of economic decline, sales typically decrease, leading to cash flow difficulties for companies. As a result, companies begin to miss payments on their debts. Hence, it is crucial for lenders to annually assess and analyze cash flows, asset and liability levels, market value and volatility of company assets, asset liquidity, etc., in order to manage the companies. This would reduce the likelihood of default and lessen losses for the lenders (Gill et al., 2011).

In the context of Nepal, Jaishi and Poudel (2019) stated that firms with high debt ratios are less productive, while those with low debt ratios are more efficient. The growth of Nepalese non-financial institutions, along with investments in intangible assets and profitability, may not always lead to improved efficiency within the firms. The main finding of the study is that the efficiency and leverage of non-financial firms in Nepal are influenced by factors such as size, tangibility, profitability, and growth. Firms burdened with significant debt tend to be less efficient than those with minimal debt. Conversely, efficient companies tend to have lower levels of debt. However, the effect of size, tangibility, profitability, and growth on leverage varies across industries in Nepalese nonfinancial firms. Moreover, Bajagai et al. (2019) revealed that institutional and managerial shareholding are positively correlated with capital structure variables. Similarly, size, age, and return on assets have positive and significant relationship with debt to total assets. Timilsina (2020) found that return on assets, bank size,

and asset tangibility are the primary influencing factors, while asset growth and liquidity are the least significant factors impacting the capital structure of commercial banks in Nepal.

The above discussion shows that empirical evidences vary greatly across the studies on the effect of financial crisis on capital structure of the companies. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The major objective of the study is to assess the effect of financial crisis on capital structure of Nepalese listed companies. Specifically, it examines the relationship of liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth with total debt to total assets ratio and total debt to total equity ratio of Nepalese listed companies.

The remainder of this study is organized as follows: Section two describes the sample, data and methodology. Section three presents the empirical results and the final section draws the conclusion.

2. Methodological aspects

The study is based on the secondary data which were collected from 14 Nepalese commercial banks from 2014/15 to 2022/23, leading to a total of 112 observations. The data were gathered from the annual reports of the selected companies. This study is based on descriptive as well as causal comparative research designs. Table 1 shows list of companies selected for the study along with the study period and number of observations.

Table 1

List of companies selected for the study along with the study period and number of observations

S.N.	Name of companies	Study period	observation
Commercial Banks			
1.	Sanima Bank Limited	2015/16 to 2022/23	8
2.	Everest Bank Limited	2015/16 to 2022/23	8
3.	Nepal SBI Bank Limited	2015/16 to 2022/23	8
4.	Machhapuchchhre Bank Limited	2015/16 to 2022/23	8
5.	Himalayan Bank limited	2015/16 to 2022/23	8
Development Banks			
1.	Garima Bikas Bank Limited	201/16 to 2022/23	8
2.	Jyoti Bikas Bank Limited	2015/16 to 2022/23	8
3.	Kamana Sewa Bikas Bank Limited	2015/16 to 2022/23	8
4.	Muktinath Bikas Bank Limited	2015/16 to 2022/23	8
Finance Companies			
1.	Manjushree Finance Limited	2015/16 to 2022/23	8
2.	Goodwill Finance Limited	2015/16 to 2022/23	8
3.	ICFC Finance Limited	2015/16 to 2022/23	8
Microfinance Institutions			
1.	Chhimek Laghubitta Bittiya Sanstha Limited	2015/16 to 2022/23	8
2.	Swabalamban Laghubitta Bittiya Sanstha Limited	2015/16 to 2022/23	8
Total number of observations			112

Thus, the study is based on the 112 observations.

The model

The model used in this study assumes the effect of financial crisis on capital structure of Nepalese listed companies. The dependent variables selected for the study are total debt to total assets ratio and total debt to total equity ratio. Similarly, the selected independent variables are liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth. Therefore, the models take the following forms:

$$\begin{aligned} \text{TDAR}_{it} &= \beta_0 + \beta_1 \text{LIQ}_{it} + \beta_2 \text{ROA}_{it} + \beta_3 \text{PR}_{it} + \beta_4 \text{TAN}_{it} + \beta_5 \text{FS}_{it} + \beta_6 \text{GWRT}_{it} + e_{it} \\ \text{TDER}_{it} &= \beta_0 + \beta_1 \text{LIQ}_{it} + \beta_2 \text{ROA}_{it} + \beta_3 \text{PR}_{it} + \beta_4 \text{TAN}_{it} + \beta_5 \text{FS}_{it} + \beta_6 \text{GWRT}_{it} + e_{it} \end{aligned}$$

Whereas,

TDAR= Debt to asset ratio as measured by the ratio of total debt to total assets, in percentage.

TDER= Debt to equity ratio as measured by the ratio of total debt to total equity, in percentage.

LIQ= Liquidity as measured by the ratio of current assets to current liability, in percentage.

ROA=Return on total assets as measured by the ratio of net profit to total assets, in percentage.

PR= Profitability as measured by the ratio of net income before tax to total shareholder's equity, in percentage.

TNG= Tangibility as measured by the ratio of net fixed assets divided by total assets, in percentage.

FS= Firm size as measured by the total assets, Rs. in billions.

GRWT= Assets growth rate as measured by the ratio of current year total assets minus previous year total assets divided by current year total assets, in percentage.

The following section describes the independent variables used in this study along with the hypothesis formulation:

Liquidity ratio

The liquidity ratio plays crucial role to measure soundness of companies' financial position. Panjaitan et al. (2023) stated that liquidity ratio has a negative relation with the debt-to-equity ratio. Similarly, Laili and Dalimunthe (2022) found that liquidity has a significant and considerable negative impact on capital structure. Likewise, Susilowati et al. (2022) demonstrated that liquidity has a negative and significant effect on capital structure as assets grow. Based on it, this study develops the following hypothesis:

H₁: There is a negative relationship between liquidity and capital structure.

Return on Assets

Ramadhani et al. (2024) signifies that ROA has a significant negative effect on capital structure. Similarly, Nurkamila and Firmansyah (2024) revealed the debt to equity has a negative relationship with return on asset. Additionally, Susilawati et al. (2022) demonstrated return on asset has a significant negative impact on debt to equity. Moreover, Gunawan et al. (2022) stated that debt to assets ratio has a negative and significant influence on return on assets, meanwhile, debt to equity poses positive and significant relation with return on assets. Furthermore, Timilsina (2020) stated that assets growth, and liquidity are all negatively correlated with capital structure. Based on it, this study develops the following hypothesis:

H₂: There is negative relationship between return on assets and capital structure.

Profitability

Profitability reflects a company's ability to generate profit in relation to its revenue, assets, or equity. Zaitoun and Alqudah (2020) stated that financial leverage negatively affects

profitability, indicating that firms with higher debt levels may face decreased profitability due to the costs related to debt servicing. Similarly, Zinal (2024) showed an inverse correlation between financial leverage and profitability, implying that increased financial leverage (debt) correlates with decreased profitability. In addition, Shubita and Alsawalhah (2012) highlighted a significant negative relationship between capital structure and profitability, suggesting that increased debt corresponds to reduced profitability, implying that as debt rises, the company's profitability falls. Based on it, this study develops the following hypothesis:

H₃: There is negative relationship between profitability and capital structure.

Assets tangibility

According to Naibaho and Kristanti (2024), asset tangibility significantly and positively affects capital structure. Similarly, Kenneth and Ibobo (2022) stated that asset tangibility has a significant positive association with leverage. Song (2005) found that there is a positive correlation between tangible assets and leverage. In contrast, Deari (2009) found that tangible asset has a negative relationship with leverage. In addition, Akdal (2011) indicated a notable negative correlation between assets tangibility with leverage. Buferna et al. (2005) discovered a negative relationship between tangible assets and leverage. Furthermore, Ramlall (2009) result also showed that tangible assets have a negative correlation with leverage. Based on it, this study develops the following hypothesis:

H₄: There is negative relationship between assets tangibility and capital structure.

Firm size

The size of the firm is vital in improving the impact of capital structure choices on profitability (Ahmed et al., 2023). Dhodary (2019) indicates that the size of a firm negatively affects its capital structure. Similarly, Akinyi (2019) concluded that financial leverage negatively affects the relationship between firm size and financial performance in Western Kenya. Additionally, Muigai and Muriithi (2017) indicated that firm size has negative and significantly moderates the capital structure and financial distress. Conversely, Nguyen and Tran (2020) indicate that the size and growth of businesses positively influence the capital structure. Based on it, this study develops the following hypothesis:

H₅: There is negative relationship between firm size and capital structure.

Assets growth

Assets are the financial resources of a company that are anticipated to enhance its future activities. Daskalakis and Psillaki (2008) noted that in France, leverage is associated with growth exclusively in a positive way. Similarly, Mutai (2014) found that there is a positive but insignificant relationship between asset growth and financial leverage. Additionally, Zhao and Wijewardana (2012) demonstrated that financial leverage is positively associated with growth and financial stability. According to Sarchah and Hajiha (2013), asset growth significantly and positively influences the leverage. Based on it, this study develops the following hypothesis:

H₆: There is positive relationship between assets growth and capital structure.

3. Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of the selected dependent and independent variables during the period of 2015/16 to 2022/23.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 14 Nepalese commercial banks for the study period of 2015/16 to 2022/23. The dependent variables are TDAR (Debt to asset ratio as measured by the ratio of total debt to total assets, in percentage) and TDER (Debt to equity ratio as measured by the ratio of total debt to total equity, in percentage). The independent variables are LIQ (Liquidity as measured by the ratio of current assets to current liability, in percentage), ROA (Return on total assets as measured by the ratio of net profit to total assets, in percentage), FS (Firm size as measured by the total assets, Rs. in billions), PR (Profitability as measured by the ratio of net income before tax to total shareholder's equity, in percentage), TNG (Tangibility as measured by the ratio of net fixed assets divided by total assets, in percentage) and GRWT (Assets growth rate as measured by the ratio of current year total assets minus previous year total assets divided by current year total assets, in percentage).

Variables	Minimum	Maximum	Mean	S.D.
TDAR	0.00	41.40	5.20	9.06
TDER	0.00	372.30	45.93	79.62
LIQ	0.08	12.42	1.21	1.88
ROA	-0.70	6.70	2.44	1.31
PR	-6.10	61.90	22.13	10.97
TAN	0.10	9.70	1.40	1.26
FS	9.48	11.52	10.59	0.49
GWRT	-12.50	135.10	25.03	23.03

Source: SPSS output

Correlation analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and the results are presented in Table 3.

Table 3

Pearson's correlation coefficients matrix

This table shows the bivariate Pearson's correlation coefficients matrix of dependent and independent variables of 14 Nepalese commercial banks for the study period of 2015/16 to 2022/23. The dependent variables are TDAR (Debt to asset ratio as measured by the ratio of total debt to total assets, in percentage) and TDER (Debt to equity ratio as measured by the ratio of total debt to total equity, in percentage). The independent variables are LIQ (Liquidity as measured by the ratio of current assets to current liability, in percentage), ROA (Return on total assets as measured by the ratio of net profit to total assets, in percentage), FS (Firm size as measured by the total assets, Rs. in billions), PR (Profitability as measured by the ratio of net income before tax to total shareholder's equity, in percentage), TNG (Tangibility as measured by the ratio of net fixed assets divided by total assets, in percentage) and GRWT (Assets growth rate as measured by the ratio of current year total assets minus previous year total assets divided by current year total assets, in percentage).

Variables	TDAR	TDER	LIQ	ROA	PR	TAN	FS	GWRT
TDAR	1							
TDER	0.988**	1						
LIQ	0.373**	0.382**	1					

ROA	0.66**	0.638**	0.389**	1				
PR	0.634**	0.658**	0.403**	0.912**	1			
TAN	-0.200*	-0.200*	0.153	-0.146	-0.157	1		
FS	-0.343**	-0.314**	-0.296**	-0.345**	-0.196*	-0.200*	1	
GWRT	-0.050	-0.040	0.005	0.094	0.081	0.018	-0.227*	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 3 shows that liquidity ratio has a positive relationship with total debt to total assets ratio. This means that increase in liquidity ratio leads to increase in total debt to assets ratio. Similarly, return on assets has a positive relationship with total debt to total assets ratio. It indicates that increase in return on assets leads to increase in total debt to assets ratio. In addition, profitability has a positive relationship with total debt to total assets ratio. It indicated that higher the profitability, higher would be the total debt to total assets ratio. However, there is a negative relationship between assets tangibility and total debt to total assets ratio. It means increase in assets tangibility leads to decrease in total debt to total assets ratio. Furthermore, firm size has a negative relationship with total debt to total assets ratio. This indicates that increase in firm size leads to decrease in total debt to total assets ratio. Moreover, growth rate has a negative relationship with total debt to total assets ratio. It indicates that increase in growth rate leads to decrease in total debt to total assets ratio of the companies.

Likewise, the result also demonstrates that there is a positive relationship between liquidity ratio and total debt to total equity ratio. It indicates that increase in liquidity ratio leads to increase in total debt to total equity ratio. Similarly, return on assets has a positive relationship with total debt to total equity ratio. It indicates that increase in return on assets leads to increase in total debt to total equity ratio. Likewise, profitability has a positive relationship with total debt to total equity ratio. It indicates that increase in profitability leads to increase in total debt to total equity ratio. Furthermore, there is a negative relationship between assets tangibility and total debt to total equity ratio. It indicates that increase in assets tangibility leads to decrease in total debt to equity ratio. Similarly, firm size has a negative relationship with total debt to total equity ratio. It indicates that increase in firm size leads to decrease in total debt to total equity ratio. Moreover, growth rate has a negative relationship with total debt to total equity ratio. It indicated that increase in growth rate leads to decrease in total debt to total equity ratio.

Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and the results are presented in Table 4 and Table 5. More specifically, Table 4 shows the regression results of liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth rate on total debt to total assets ratio of Nepalese commercial banks.

Table 4

Estimated regression results of liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth rate on total debt to total assets ratio of Nepalese commercial banks

The results are based on panel data of 14 listed companies with 112 observations for the study period of 2015/16 to 2022/23 by using linear regression model. The model is $TDAR_{it} = \beta_0 + \beta_1 LIQ_{it} + \beta_2 ROA_{it} + \beta_3 PR_{it} + \beta_4 TAN_{it} + \beta_5 FS_{it} + \beta_6 GWRT_{it} + e_{it}$ where, the dependent variable is TDAR (Debt to asset ratio as measured by

the ratio of total debt to total assets, in percentage). The independent variables are LIQ (Liquidity as measured by the ratio of current assets to current liability, in percentage), ROA (Return on total assets as measured by the ratio of net profit to total assets, in percentage), FS (Firm size as measured by the total assets, Rs. in billions), PR (Profitability as measured by the ratio of net income before tax to total shareholder's equity, in percentage), TNG (Tangibility as measured by the ratio of net fixed assets divided by total assets, in percentage) and GRWT (Assets growth rate as measured by the ratio of current year total assets minus previous year total assets divided by current year total assets, in percentage).

Models	Intercepts	Regression coefficients of						Adj. R _{bar} ²	SEE	F-value
		LIQ	ROA	PR	TAN	FS	GWRT			
1	1.734 (1.512)	2.845 (4.215) **						0.131	8.451	17.768
2	-5.944 (4.334) **		4.565 (9.217) **					0.431	6.842	84.95
3	-6.394 (4.251) **			0.524 (8.599) **				0.397	7.043	73.935
4	7.208 (5.275) **				-1.431 (2.144) *			0.031	8.923	4.596
5	71.549 (4.125) **					6.261 (3.829) **		0.110	8.555	14.662
6	5.713 (4.403) **						-0.02 (0.524)	0.007	9.096	0.275
7	-6.316 (4.596) **	1.041 (1.773)	4.197 (7.881) **					0.441	6.776	44.873
8	-6.736 (4.625) **	0.975 (1.645)	3.253 (2.711) *	0.127 (0.878)				0.440	6.783	30.110
9	-5.022 (2.951) **	1.250 (2.070) *	3.206 (2.702) **	0.102 (0.712)	-0.988 (1.888)			0.453	6.704	24.010
10	33.601 (2.055) *	0.981 (1.630)	1.913 (1.491)	0.218 (1.470)	-1.262 (2.404) *	-3.523 (2.374) *		0.476	6.563	21.168
11	42.682 (2.563) *	0.873 (1.468)	1.783 (1.411)	0.241 (1.641)	-1.274 (2.465) *	-4.240 (2.829) **	-0.058 (2.118) *	0.493	6.458	18.968

Notes:

- Figures in parenthesis are t-values.
- The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
- Total debt to asset ratio is the dependent variable.

Table 4 reveals that the beta coefficients for liquidity ratio are positive with total debt to total assets ratio. It indicates that liquidity has positive impact on total debt to total assets. This finding is similar to the findings of Susilowati (2019). Similarly, the beta coefficients for return on assets are positive with total debt total assets ratio. It indicates that return on assets has a negative impact on total debt to total assets. This finding contradicts with the findings of Gunawan et al. (2022). In addition, the beta coefficients for profitability are positive with total debt to total assets ratio. It indicates that the profitability has a positive impact on total debt to total assets ratio. The finding is consistent with the findings of Buferna et al. (2005). Likewise, the beta coefficients for assets tangibility are negative with total debt to total assets ratio. It indicates that assets tangibility has a negative impact on total debt to total assets ratio. This finding is similar to the findings of Deari (2009). Further, the beta coefficients for firm size are negative with total debt to total asset ratio. It indicates that firm size has a negative impact on total debt to total asset ratio. This finding is consistent with the findings of Akinyi (2019). Moreover, the beta coefficients for assets growth ratio are negative with total debt to total assets ratio. It indicates that assets growth has negative impact on total debt to total assets ratio. This finding is inconsistent with the findings of Mutai (2014).

Table 5 shows the regression results of liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth rate on total debt to total equity of Nepalese commercial banks.

Table 5

Estimated regression results of liquidity ratio, return on assets, profitability, assets tangibility, firm size, and assets growth rate on total debt to total equity of Nepalese commercial banks

The results are based on panel data of 14 listed companies with 112 observations for the study period of 2015/16 to 2022/23 by using linear regression model. The model is $TDER_{it} = \beta_0 + \beta_1 LIQ_{it} + \beta_2 ROA_{it} + \beta_3 PR_{it} + \beta_4 TAN_{it} + \beta_5 FS_{it} + \beta_6 GWRT_{it} + e_{it}$ where, the dependent variable is TDER (Debt to equity ratio as measured by the ratio of total debt to total equity, in percentage). The independent variables are LIQ (Liquidity as measured by the ratio of current assets to current liability, in percentage), ROA (Return on total assets as measured by the ratio of net profit to total assets, in percentage), FS (Firm size as measured by the total assets, Rs. in billions), PR (Profitability as measured by the ratio of net income before tax to total shareholder's equity, in percentage), TNG (Tangibility as measured by the ratio of net fixed assets divided by total assets, in percentage) and GRWT (Assets growth rate as measured by the ratio of current year total assets minus previous year total assets divided by current year total assets, in percentage).

Models	Intercepts	Regression coefficients of						Adj.R_bar ²	SEE	F-value
		LIQ	ROA	PR	TAN	FS	GWRT			
1	14.683 (1.464)	25.620 (4.341) **						0.138	73.906	18.844
2	-48.666 (3.941) **		8.738 (8.687) **					0.401	61.601	75.457
3	-59.819 (4.653) **			4.778 (9.172) **				0.428	60.209	84.131
4	63.476 (5.740) **				-12.525 (2.137) *			0.031	78.396	4.565
5	579.774 (3.766) **					-50.379 (3.471) **		0.091	75.935	12.051
6	49.560 (4.347) **						-0.140 (0.425)	0.007	79.920	0.181
7	-52.449 (4.255) **	10.582 (2.008)	35.002 (7.328) **					0.418	60.769	40.786
8	-62.464 (4.890) **	9.007 (1.732)	12.458 (1.184)	3.027 (2.301) *				0.442	59.495	30.272
9	-47.697 (3.194) **	11.372 (2.146) *	12.052 (1.158)	2.813 (2.237) *	-8.512 (1.854)			0.454	58.835	24.076
10	312.899 (2.188) *	8.860 (1.683)	-0.018 (0.002)	3.899 (3.001) **	-11.074 (2.412) *	-32.890 (2.535) *		0.480	57.398	21.522
11	386.452 (2.646) *	7.985 (1.532)	-1.068 (0.096)	4.079 (3.173) **	-11.166 (2.464) *	-38.697 (2.944) **	-0.471 (1.956)	0.494	56.649	19.050

Notes:

- Figures in parenthesis are t-values.
- The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
- Total debt to equity ratio is the dependent variable.

Table 5 reveals that the beta coefficients for liquidity ratio are positive with total debt to total equity ratio. This indicates that liquidity ratio has positive impact on total debt to total equity ratio. This finding is consistent with the findings of Laili and Dalimunthe (2022). Likewise, the beta coefficients for return on assets are positive with total debt to total equity ratio. This indicates that return on assets has a positive impact on total debt to total equity ratio. This finding contradicts the findings of Nurkamila and Firmansyah (2024). In addition, the beta coefficients for profitability are positive with total debt to total equity ratio. This illustrates that

profitability has a positive impact on total debt to total equity ratio. This finding is consistent with the findings of Zaitoun and Alqudah (2020). Moreover, the beta coefficients for assets tangibility are negative with total debt to total equity ratio. This shows that assets tangibility has a negative impact on total debt to total equity ratio. This finding is similar to the findings of Akdal (2011). Similarly, the beta coefficients for firm size are negative with total debt to total equity ratio. This indicates that firm size has a negative impact on total debt to total equity. This finding is consistent with the findings of Timilsina (2020). Furthermore, the beta coefficients for assets growth rate are negative with total debt to total equity ratio. This indicates that growth has a negative impact on debt to total equity ratio. This finding is similar to the findings of Nguyen and Tran (2020).

4. Summary and conclusion

A financial crisis is a condition in which the worth of financial entities or assets declines sharply which results significant economic turmoil. Financial entities such as banks face major losses, resulting in insolvencies or government rescues. There could be an absence of liquidity, indicating that businesses, consumers, or governments have difficulty obtaining cash or credit. Financial crisis is an abrupt disturbance in financial markets or banking systems, resulting in significant economic turmoil due to banks evading regulations, concentrating mortgage default risks and leading to insolvency is the cause of financial crisis.

The study attempts to analyze the effect of financial crisis on capital structure of Nepalese listed companies. The study is based on secondary data from 14 Nepalese listed companies during the study period from 2015/16 to 2022/23, leading to a total of 112 observations.

The major conclusion of this study is that liquidity, return on assets, profitability, has positive impact on total debt to total assets ratio. Similarly, liquidity, return on assets, profitability, have positive impact on total debt to total equity. Conversely, assets tangibility, firm size, and assets growth have negative impact on total debt to total assets ratio. Likewise, assets tangibility, firm size, and assets growth have a negative impact on total debt to total equity. Similarly, the study also concluded that return on assets followed by profitability is the most influencing factor that explains the changes in the total debt to total assets ratio in the context of Nepalese commercial banks. Likewise, the study also concluded that profitability followed by return on assets is the most influencing factor that explains the changes in the total debt to total equity ratio in the context of Nepalese commercial banks.

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